## AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

**Listing of Claims:**

Claim 1 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam so as to produce an outgoing light beam, the outgoing light beam ~~from the illumination system becoming a light beam~~ emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and ~~irradiating~~ configured to irradiate a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~including~~ includes a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 2 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam, the outgoing light beam emerging from the mask ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask and being incident onto, a ~~polycrystal~~

polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~including~~ includes a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 3 (Currently Amended): The crystallization apparatus according to claim 2, wherein the light scattering layer has a refractive index distribution according to ~~the~~ said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 4 (Currently Amended): The crystallization apparatus according to claim 3, wherein the light scattering layer is formed by forming a layer ~~consisting of~~ including a transparent material in which volatile components are dispersed and then volatilizing the volatile components.

Claim 5 (Currently Amended): The crystallization apparatus according to claim 2, wherein the light scattering layer has a surface shape according to the outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 6 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam, the outgoing light beam emerging from the mask ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an

increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and ~~irradiating~~ configured to irradiate a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~including~~ includes a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 7 (Currently Amended): The crystallization apparatus according to claim 6, wherein the light reflection layer ~~has~~ includes a multilayer reflection film formed in accordance with a predetermined layer number distribution.

Claim 8 (Currently Amended): The crystallization apparatus according to claim 6, wherein the light reflection layer ~~has~~ includes a metal reflection film formed in accordance with a predetermined thickness distribution.

Claim 9 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam so as to produce an outgoing light beam emerging from the mask, the outgoing light beam ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and ~~irradiating~~

configured to irradiate a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~including~~ includes a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 10 (Currently Amended): The crystallization apparatus according to claim 9, wherein the light refraction layer has a refractive index distribution according to ~~the~~ said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 11 (Currently Amended): The crystallization apparatus according to claim 9, wherein the light refraction layer has a surface shape according to [[a]] said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 12 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam so as to produce an outgoing light beam emerging from the mask, the outgoing light beam ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and ~~irradiating~~ configured to irradiate a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~including~~ includes a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 13 (Currently Amended): The crystallization apparatus according to claim 12, wherein the light diffraction layer has a refractive index distribution according to ~~the~~ said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 14 (Currently Amended): The crystallization apparatus according to claim 12, wherein the light diffraction layer has a surface shape according to ~~the~~ said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 15 (Currently Amended): A crystallization apparatus comprising:

a plurality of masks each including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the ~~mask~~ masks with a light beam so as to produce an outgoing light beam emerging from the masks, the outgoing light beam ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the ~~mask~~ masks, and ~~irradiating~~ configured to irradiate a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein ~~each of~~ the plurality of masks include, ~~including~~

a first layer and a second layer ~~which are~~ selected from the group consisting of,

a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~, and

a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 16 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam, the outgoing light beam emerging from the mask ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and configured to irradiate ~~irradiating~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask comprises,

a phase shift layer and a first layer ~~which is~~ selected from the group consisting of,

a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~,

a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~, and

a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 17 (Currently Amended): The crystallization apparatus according to claim 1, wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask are arranged ~~so as~~ to be appressed against each other.

Claim 18 (Currently Amended): The crystallization apparatus according to claim 1, wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask are arranged in substantially parallel ~~to~~ and in close proximity to each other.

Claim 19 (Currently Amended): The crystallization apparatus according to claim 1, further comprising:

an image forming optical system ~~which is~~ arranged in a light path between the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask, ~~and~~

wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film is ~~set so as~~ configured to be separated from a plane which is optically

conjugate with the mask by a predetermined distance on an optical axis of the image forming optical system.

Claim 20 (Currently Amended): The crystallization apparatus according to claim 1, further comprising:

an image forming optical system which is arranged in a light path between the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask, ~~and~~

wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film is set to a plane which is optically substantially conjugate with the mask, and

an image side numerical aperture of the image forming optical system is configured ~~set to a value required~~ to generate ~~the~~ said outgoing light intensity distribution ~~with the inverse peak pattern~~.

Claim 21 (Currently Amended): A crystallization apparatus comprising:

a mask including at least one basic unit; and

an illumination system ~~which illuminates~~ configured to illuminate the mask with a light beam, the outgoing light beam emerging from the mask ~~from the illumination system becoming a light beam~~ having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern~~ when transmitted through the mask, and configured to irradiate ~~irradiating~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film, thereby generating a crystallized semiconductor film,

wherein the mask ~~having~~ has binary distribution characteristics ~~according to the~~ so as to produce said outgoing light intensity distribution ~~with the inverse peak pattern~~, and being configured to obtain a relatively continuous light intensity distribution by removing a high-frequency component of a spatial frequency.

Claim 22 (Currently Amended): The crystallization apparatus according to claim 21, wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask are arranged in substantially parallel ~~to~~ and in close proximity to each other ~~in order~~ to remove the high-frequency component.

Claim 23 (Currently Amended): The crystallization apparatus according to claim 21, further comprising:

an image forming optical system arranged in a light path between the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask, ~~and~~

wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film is set ~~so as~~ to be separated from a plane which is optically conjugate with the mask by a predetermined distance on an optical axis of the image forming optical system ~~in order~~ to remove the high-frequency component.

Claim 24 (Currently Amended): The crystallization apparatus according to claim 22, wherein the illumination system is configured to illuminate ~~illuminates~~ the mask with a light beam having a predetermined maximum incident angle.

Claim 25 (Currently Amended): The crystallization apparatus according to claim 21, further comprising:

an image forming optical system arranged in a light path between the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask, ~~and~~

wherein the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film is set to a plane which is optically substantially conjugate with the mask, and

the image forming optical system is set to an image side numerical aperture ~~required~~ configured to remove the high-frequency component.

Claim 26 (Currently Amended): The crystallization apparatus according to claim 21, further comprising an image forming optical system arranged in a light path between the ~~polycrystal~~ polycrystalline semiconductor film or the amorphous semiconductor film and the mask, and

wherein the image forming optical system has an aberration ~~required~~ configured to remove the high-frequency component.

Claim 27 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 28 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 29 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light ray emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light

intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 30 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with ~~a light beam having a~~ an outgoing light beam emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 31 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from the mask having [[a]] an outgoing light intensity distribution with a light intensity being

minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 32 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from said mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a first layer and a second layer, respectively, formed by layers selected from the group consisting of,

a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~, and

a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 33 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from said mask having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and

~~the method~~ using the mask with ~~including~~ a phase shift layer and a first layer which is selected from the group consisting of:

a light absorption layer having light absorption characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light scattering layer having light scattering characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light reflection layer having light reflection characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~,

a light refraction layer having light refraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~, and

a light diffraction layer having light diffraction characteristics ~~according to the~~ so as to produce said light intensity distribution ~~with the inverse peak pattern~~.

Claim 34 (Currently Amended): A crystallization method including the steps of: ~~which~~

illuminating ~~illuminates~~ a mask having at least one basic unit, ~~and~~

irradiating ~~irradiates~~ a ~~polycrystal~~ polycrystalline semiconductor film or an amorphous semiconductor film through the mask, with [[a]] an outgoing light beam emerging from said mask, having [[a]] an outgoing light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit ~~an inverse peak pattern through the mask~~, thereby generating a crystallized semiconductor film, and ~~wherein a relatively continuous light intensity distribution is obtained by~~

removing a high-frequency component of a spatial frequency by using the mask having binary distribution characteristics ~~according to~~ so as to produce the light intensity distribution, thereby obtaining a relatively continuous light intensity distribution ~~with the inverse peak pattern~~.

Claim 35 (Currently Amended): A mask used to form a predetermined light intensity distribution by an outgoing light beam emerging from said mask on a predetermined plane, when illuminated by a light beam,

the mask comprising a light absorption layer including at least one basic unit having light absorption characteristics ~~according to the~~ so as to produce the predetermined light intensity distribution with a light intensity being minimum substantially at a center of the at

least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit.

Claim 36 (Currently Amended): A mask used to form a predetermined light intensity distribution by an outgoing light beam emerging from said mask on a predetermined plane, when illuminated by a light beam,

the mask comprising a light scattering layer including at least one basic unit having light scattering characteristics ~~according to~~ so as to produce the predetermined light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit.

Claim 37 (Currently Amended): A mask used to form a predetermined light intensity distribution by an outgoing light beam emerging from said mask on a predetermined plane, when illuminated by a light beam,

the mask comprising a light reflection layer including at least one basic unit having light reflection characteristics ~~according to~~ so as to produce the predetermined light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit.

Claim 38 (Currently Amended): A mask used to form a predetermined light intensity distribution by an outgoing light beam emerging from said mask on a predetermined plane, when illuminated by a light beam,

the mask comprising a light refraction layer including at least one basic unit having light refraction characteristics ~~according to~~ so as to produce the predetermined light intensity

distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit.

Claim 39 (Currently Amended): A mask used to form a predetermined light intensity distribution by an outgoing light beam emerging from said mask on a predetermined plane, when illuminated by a light beam,

the mask comprising a light diffraction layer including at least one basic unit having light diffraction characteristics ~~according to~~ so as to produce the predetermined light intensity distribution with a light intensity being minimum substantially at a center of the at least one basic unit and an increasing light intensity towards a periphery of the at least one basic unit.

Claim 40 (Currently Amended): An exposure method comprising an illumination system which illuminates a mask as defined in claim 35, comprising the steps of:

~~the method~~ forming the predetermined light intensity distribution on a substrate, and ~~that~~

processing ~~is applied to~~ the substrate in the predetermined plane.

Claim 41 (Currently Amended): The exposure method according to claim 40, wherein the substrate and the mask are arranged ~~so as~~ to be contact with each other.

Claim 42 (Currently Amended): The exposure method according to claim 40, wherein the substrate and the mask are arranged ~~in~~ substantially parallel ~~to~~ and in close proximity to each other.

Claim 43 (Currently Amended): The exposure method according to claim 40, wherein an image forming optical system is arranged in a light path between the substrate and the mask, and the substrate is set ~~so as~~ to be separated from a plane which is optically conjugate with the mask by a predetermined distance on an optical axis of the image forming optical system.

Claim 44 (Currently Amended): The exposure method according to claim 40, wherein an image forming optical system is arranged in a light path between the substrate and the mask,

an image side numerical aperture of the image forming optical system is configured ~~set to a value required~~ to generate the predetermined light intensity distribution, and

the substrate is set to a surface which is optically substantially conjugate with the mask.